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A COST ANALYSIS COMPARING CHAMPUS TO TREATMENT PROVIDED WITHIN IRELAND ARMY COMMUNITY HOSPITAL

A Graduate Management Project Proposal

Submitted to the Faculty of

Baylor University

In Partial Fulfillment of the

Requirements for the Degree

of

Master of Health Administration

by

MAJ Alan E. Jones, MS, USA

September 1992

RUNNING HEAD: Inpatient Costs Analysis

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ABSTRACT

This graduate management project identified high cost CHAMPUS claims by diagnosis in the Fort Knox catchment area and calculated the cost of providing care to treat these same diagnoses within the medical treatment facility. In order for Fort Knox's Gateway to Care program to be successful and negotiate fees with civilian providers, customary and reasonable charges within the catchment area must be known first. Once determined these comparisons can serve as valuable tools in negotiating treatment fees with civilian providers. First, the project consisted of a thorough examination of the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) claims by diagnosis submitted to the government during FY90 in the Fort Knox catchment area. Six of the most expensive diagnoses that were reimbursed to civilian providers by the government were identified.

Next, the costs of providing treatment at Ireland Army Community Hospital for these diagnoses were calculated through the use of the Medical Expense and Performance Reporting System (MEPRS). By comparing the two cost amounts it could be determined which method of providing treatment was more economical for the

government, treatment within the medical treatment facility or through CHAMPUS.

This study also examined costs for treatment of the identified diagnoses at other civilian health care facilities within the catchment area. Hardin Memorial Hospital provides billed charges to the public. These charges per diagnosis were compared to MTF and CHAMPUS costs. Through this comparison, reasonable reimbursements rates in our catchment area were determined. Also, the data provided insight into the cost effectiveness and productivity of our MTF.

As expected, it was found that treatment within the MTF was much cheaper to the government than providing treatment through CHAMPUS. Differences between CHAMPUS costs and costs for treatment within the MTF varied up to five hundred percent.

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I. INTRODUCTION

CONDITIONS THAT PROMPTED THE STUDY

Total military health care expenditures are increasing at an alarming rate (Tomich, 1992). In recent years the Civilian Health and Medical Program of the Uniformed Services expenditures have increased between 12 to 16 percent annually (U.S. Medicine, 1992). In FY90 over $3 billion were spent on CHAMPUS (Mendez, 1991). The civilian health care industry has experienced similar growth. In 1960 health care made up approximately 6% of our nation's Gross National Product; in 1990 it accounted for nearly 12% of the GNP or $680 billion (Furst, 1991). Coile (1990), believes it will increase to 15% of the GMP by 1995. Citizens, employers, and legislators have become concerned and are examining the health care sector for possible solutions to impede its inflation. Cost containment managed care initiatives have been successful in reducing health care costs in some settings and will become a national policy according to Schutzer (1991).

The military, in an attempt to reduce its CHAMPUS expenditures, has begun to experiment with managed care initiatives. In the past, dependents of active duty and retirees were given the freedom to select any provider without any direction or assistance from the MTF except

where inpatient services were available in the MTF. This resulted in CHAMPUS paying for health care services with no coordinated effort to contain costs and influenced much of the inflation in CHAMPUS expenditures.

For example, total Fort Knox CHAMPUS claims in FY87 were $11,293,877 and increased to $15,012,142 in FY89. This amounted to a 24% increase in the two year period. The CHAMPUS growth continued into FY90 with an additional 17% growth over FY89 to $18,190,001. For the five year period of FY85 to FY89 average annual CHAMPUS cost growth was 57%. In contrast, cost growth in military medical treatment facilities was 79% and the national rate of growth for medical expenditures was 69%, according to a conversation with Major Thomas Williams, a staff member of Coordinated Care Operations for OASD Health Services Financing, on 11 July 1992.

This continued rapid cost escalation is viewed as problematic by Congressional Committee DoD officials, and AMEDD Leaders. A series of demonstrations and initiatives have been undertaken to get control of Military Medical cost growth. The most recent of which is the coordinated care program.

Under Gateway to Care, the Army's concept for the coordinated care program, the MTF will have the ability

to direct enrolled beneficiaries to preferred providers who have agreed to provide treatment for a specific service at a reduced rate.

An important aspect of any managed care program is to determine a reasonable price for a particular service of care or treatment. In the past, accurate customary and reasonable charges have not been readily available to compare health care prices prior to buying. The future success of Gateway to Care will depend on the MTF's knowledge of reasonable charges prior to negotiating with civilian providers.

Under the military's former system, civilian health care facilities and physicians were reimbursed on a fee for service basis. If approved by the fiscal intermediary CHAMPUS would reimburse a large percentage of the payment that the civilian health care provider billed. There were few cost control measures to prevent the escalation of costs. According to Kongstevdt (1989), a process to determine competitive fees and negotiate these fees with providers is essential to control costs.

USA MEDDAC at Fort Knox has developed its coordinated care program proposal for implementation in FY93. The Gateway to Care design allows MTF commanders to negotiate contracts with civilian providers. The hope

is that each MTF will find ways of providing health care services to beneficiaries within their catchment area in a more cost effective manner than in the past. The decentralization concept requires the local commander to negotiate with health care providers in an effort to reduce costs to the government and to its beneficiaries.

THE PROBLEM STATEMENT

The military health care environment reflects a cost spiral which is producing a near state of crisis. Coordinated care is an attempt to deal with the upward spiral in costs (U. S. Medicine, 1992). Controlling the rise in CHAMPUS costs while maintaining quality is the central focus of the military's coordinated care program. Each individual military medical facility must develop an appropriate combination of these elements including a network of preferred providers to negotiate discounts and facilitate cost containment (Kendel, 1991). Other attempts to bring managed care concepts to the military health service system including the CHAMPUS Reform Initiative have been initiated.

Gateway to Care will be initiated at Fort Knox in FY93. Ireland Army Community Hospital is now faced with the problem of providing quality health care for its 62,295 beneficiaries within a very complex marketplace.

The large number of providers coupled with an extensive and confusing list of individual procedures make the purchase of health care an impossible task for any layman seeking treatment.

An important element of the coordinated care program is to provide as much health care as possible within the MTF and contract with civilian providers for needed but unavailable care within the MTF. Ireland Army Community Hospital must calculate competitive fees for services in their catchment area. Without knowing reasonable costs for specific services or to treat certain diagnoses, Fort Knox will not be fully successful in its negotiations and in fully curbing its rate of CHAMPUS expenditure growth. As a first step, Ireland must identify its high costs CHAMPUS claims and seek to negotiate reasonable fees with pediatricians, psychiatrists, obstetricians, and other needed providers that are more cost effective. If Ireland is not successful in its negotiations then CHAMPUS expenditures are likely to continue to increase at an unacceptable level unless an alternative mechanism for managing CHAMPUS cost control is used.

LITERATURE REVIEW

Kendel notes that CHAMPUS costs rose 2% from 1987 to 1989 under the CHAMPUS Reform Initiative while CHAMPUS

costs increased 16% in the traditional non-coordinated care system of CHAMPUS. This preliminary result appears to demonstrate that negotiating contractual agreements with providers can be very cost effective.

Kongstevdt (1989), discusses the importance of understanding the customary and reasonable rates that physicians are charging for specific services. Without this knowledge, negotiating optimal contracts would be impossible. If Ireland Army Community Hospital is to be successful in its efforts to control the costs of CHAMPUS it must be successful in negotiating arrangements that offer favorable costs for services.

Johnsson (1991), reports the success of civilian managed care programs. At one 562 bed hospital, high-cost DRGs were examined prior and after the initiation of managed care. Average length of stay dropped 23% and charges dropped by 16%. Further, the significance of these efforts is growing across the health care marketplace. Coile (1990), reports that managed care enrollment will increase to 50% of the non-Medicare population by 1995. Also, other experts forecast that 80% of the healthcare insured population will be enrolled in managed care programs within the next ten years (Staff, 1989). These findings demonstrate the

implied significance of the managed care approach and the importance of MTFs having the capability to determine and negotiate reasonable costs for treatment.

The managed care concept is a simple one in which a contract is made with a provider to either provide health care to a defined population at a reduced rate with discounts for volume, or one in which the provider agrees to provide treatment to a defined population through a capitation method. Through capitation the provider is paid in advance for providing treatment to a population for a specific period of time. Under both types of reimbursements, the buyer of care must have accurate cost data to determine negotiable rates with providers.

Negotiating for mental health services will be an important factor in the success of Ireland's Gateway to Care Program. Four of the diagnoses identified as high cost in the study were mental health related. This was no surprise as mental health accounts for more than 30% of America's health care costs, up 100% in the last five years (Bell, 1989). Mental health and substance-abuse treatments are costing American companies $207 per employee annually; the total figure in claims may reach $1 billion dollars by 1995 (Kendel, 1990).

According to Coile (1990), America's total mental health care costs may exceed $100 billion annually by 1995. In the wake of these alarming figures, business and government are seeking alternative methods to deal with this crisis. Managed care may be a solution.

PURPOSE

The purpose of this study was to compare costs by diagnosis for alternate sources of health care treatment provided to military beneficiaries in the Fort Knox catchment area. This involves the comparison of treatment costs within the MTF to costs for providing treatment by civilian providers. With appropriate comparison, it can be determined which method is more cost effective to the government. General questions regarding productivity within the MTF could also be addressed from this information. Also, information on which to base reasonable reimbursement rates could be determined to assist in negotiating contracts with civilian providers. Determining reasonable reimbursement rates to civilian providers is an important component to Gateway to Care.

II. METHODS AND PROCEDURES

The author examined CHAMPUS billing data collected by the Fiscal Intermediary, Uniformed Services Benefit

Plan, during FY90. This was the most recent data available. Patient names were not known and were not necessary for the study. The data was specific to the Fort Knox catchment area and was an accumulation of all patients admitted and treated during FY90 by diagnoses. Six of the highest inpatient costs by diagnosis were identified from this CHAMPUS data. These diagnoses were: Major depressive disorder, single episode; Bipolar disorder, mixed; Schizoaffective disorder; Alcohol dependence, unspecified; Single liveborn, delivered by cesarean section; and Cholelithiasis (gallbladder removal).

Next, the costs of providing treatment at Ireland Army Community Hospital for the same diagnoses were calculated by the following method: First, patients who were admitted to Ireland during FY91 with a primary diagnosis of one of the six diagnoses were identified with the assistance from Patient Administration Systems and Biostatistics Activity (PASBA) Special Studies Branch at Fort Sam Houston, Texas. Only patients with a primary diagnosis of one of the six diagnoses and without a secondary diagnosis were examined. Secondary diagnoses require more treatment and would confound the study.

The PASBA data provided patient names, registration numbers, and length-of-stays for patients treated in the MTF during FY91. A total of a 154 patients were identified as receiving treatment in the MTF for the six diagnoses. Using MEPRS FY91 data, average cost per occupied bed day by department could be calculated. Since MEPRS determines average department cost of an occupied bed day for the MTF, it was felt that a more precise method of calculating costs for these specific diagnoses would be desirable for accuracy. Therefore, using the MEPRS stepdown, pharmacy and laboratory costs were deducted from the previous occupied bed day calculation of MEPRS. Next, all pharmacy and laboratory costs of all identified patients that were treated at Ireland were calculated through use of the Composite Health Care System.

Ireland Army Community Hospital has served as the alpha site for the Composite Health Care System. CHCS is an integrated computer system that allows providers to order laboratory, pharmacy and other services within the hospital. The specific laboratory procedures and pharmaceuticals that the patients in this study utilized were identified through CHCS. The pharmacy and laboratory departments calculated the costs for the

specific services that the patients received while hospitalized. From the previous calculated MEPRS costs in which pharmacy and laboratory costs were deducted, the precise pharmacy and laboratory costs were then added. The result was a more accurate cost per occupied bed day for these specific patients.

By comparing CHAMPUS costs per diagnosis to costs of treating the same diagnosis within the MTF a reasonable approximation is available to determine which method is more cost effective to the government, treatment within the MTF or through CHAMPUS. Since the study examined all patients treated within the catchment area for the identified diagnoses and not just a random sample, the validity and reliability of the study would be increased.

Also, Hardin Memorial Hospital of Elizabethtown provided their average charges to third party payers for the six diagnoses. This data was used as a comparison to determine if CHAMPUS providers had been billed competitive rates.

III. Results

As expected, inpatient CHAMPUS costs by diagnosis were significantly higher than the costs incurred for treating a patient with the same diagnosis within the

MTF. Of the six diagnoses examined all were found to be more cost effective when treated within the MTF, see table one.

Insert Table 1 about here

Since FY 91 data was unavailable for CHAMPUS reimbursements within the catchment area, FY 90 data was increased by 15.77 percent, see table two. This was the

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Insert Table 2 about here

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amount that CHAMPUS expenditures increased in FY 91 over FY 90 in the catchment area.

Table two shows that greatest difference in costs by diagnosis was found in three diagnoses of three mental disorders and the caesarean section: Major depressive disorder was five times as expensive to be treated by civilian providers ($11,013) than by military providers ($2,033) within the MTF. Schizoaffective disorder was found to be almost three times as expensive to be treated outside the MTF, $5,626 within the MTF as compared to $15,404 outside the MTF. Alcohol dependence was found to

be more than three times less expensive to the government to be treated within the MTF, $2,554 as compared to $8,193 for the treatment provided through CHAMPUS. Also, caesarean sections cost the government approximately $2,055 per case when performed in the MTF compared to $12,581 for the average case treated by a CHAMPUS provider. Shorter length-of-stays for treatment within the MTF seems to be the determining factor.

Another mental disorder, bipolar disorder, was also found to be more cost effective if treated within the MTF. Average inpatient costs for treating this diagnosis within the MTF was $6,958 as compared to $10,384 per case when treatment was provided by CHAMPUS providers outside the MTF. Cholelithiasis, removal of the gall bladder, was found to be cheaper if performed within the MTF but not significantly less expensive. Cholelithiasis performed within the MTF cost the government $3,390 per case while the same procedure provided through CHAMPUS cost the government $5,387.

Next, Hardin Memorial Hospital's charges for the treatment of the diagnoses were examined, table three.

Insert Table 3 about here

By comparing their charges to Ireland's costs and CHAMPUS reimbursement rates in the catchment area we can determine competitive treatment rates. Table four shows

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Insert Table 4 about here

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that Hardin Hospital's rates were more similar to those of Ireland's costs than to the rates that CHAMPUS Providers were reimbursed. This clearly shows that CHAMPUS Providers did not charge competitive rates within the catchment area.

An examination of MTF average occupied bed days by the three departments that provided treatment for the six diagnoses provided some interesting results, see table five. Inpatient census for the department's of general

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Insert Table 5 about here

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surgery and obstetrics have decreased dramatically, by 26 percent, since fiscal year 91. In fact, Ireland's overall average inpatient census has decreased from 87.8 to 68.4 or 22 percent. In a time in which we are attempting to reduce CHAMPUS expenditures our MTF is treating less patients.

Table six further demonstrates our concerns. The

Insert Table 6 about here

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results of the decrease in utilization of occupied beds without a decrease in resources brings about an increase in costs in occupied beds. The three departments average cost increase between fiscal year 91 and only the first six months of fiscal year 92 was an astounding 25 percent.

IV. Discussion

There were several criticisms with this study. One deals with the calculation of costs for treating patients within the military treatment facility. The military health care system does not have a billing system that generates an individual bill for each patient treated. MTFs bill patients a nominal flat rate per admission day while civilian health care facilities account for the charges generated for each individual patient. The military utilizes the Medical Expense and Performance Reporting System which calculates total costs per work center (National Technical Information Center, 1986).

For instance, the Department of Surgery in FY91 generated a total expense of $2,694,627. During this year 4,080 patient days were accumulated for all patients who received any type of surgery and were admitted to the surgery ward. By dividing patient days into total expense it was determined that an average bed day cost the government $660.45. By identifying all patients who received a cholelithasis, their average length-of-stay could be calculated and then multiplied by $660.45. This would provide the cost of the average surgery patient who was hospitalized for 6.2 days at Ireland.

This method is certainly not as accurate as an individualized billing system. However, in comparing the large costs differences between treatment within the MTF to treatment provided through CHAMPUS it becomes clear that even if the costs for treatment within the MTF are not exact it is still far cheaper to provide treatment within the MTF. And, as mentioned earlier, in order to provide a more accurate account of the costs for the six diagnoses, pharmacy and laboratory costs were identified and calculated for these patients in the study. This provided a substantial improvement to the cost analysis of the MTF data.

Another criticism with this study becomes very apparent in examining data on the cholelithiases. Due to the constant changes in treatment procedures, accurate up to date data is vital to determine accurate cost of treatment. Laproscopic cholelithases was relatively new but utilized in the civilian community in FY90. Through laproscopy, the surgeon makes a small incision to remove the gallbladder. Healing and recovery time is shortened and length-of-stays are dramatically reduced. This accounts for the lower LOS through CHAMPUS treatment than through the MTF, 4.3 days compared with 6.2 days.

Ireland now performs laproscopic cholelithsis and most patients are discharged after a two day hospitalization. With this additional insight it is possible to say that this procedure would also be substantially more cost effective if performed in the MTF, as was the case with the other diagnoses.

Another criticism with the accuracy of this study deals with the comparisons of caesarean sections performed at Ireland to CHAMPUS Providers. Anticipated complications with births at Ireland are generally referred to civilian providers that can provide the level of care needed to provide appropriate treatment. Therefore, the potentially higher risk and higher cost

cases are referred to civilian providers. This may explain some of the higher costs of the caesarean sections in the CHAMPUS reimbursement care. However, since CHAMPUS Providers charged over five times both the MTF costs and Hardin Hospital's charges, it would not seem that the CHAMPUS reimbursements were reasonable.

Since mental health treatment is very expensive, it seems to be an ideal target to recapture and bring back into the MTF. Boaz (1988) notes that mental health care costs have increased more rapidly than any other type of health care cost. Therefore, Ireland's high CHAMPUS costs for the four mental health diagnoses were not a surprise. Kendel (1990), notes that well patients are often hospitalized by psychiatrists through the customary 28 day coverage period and then are suddenly "cured".

A similar phenomena seems to have occurred in the Fort Knox catchment area. Length-of-stays for mental health treatment through CHAMPUS providers were noted to be considerably longer than the treatment provided within the MTF. And, LOS is a determining factor in mental health reimbursement unlike DRGs which are used to determine cost reimbursements in most other diagnoses.

Another reason for the variance in costs is attributed to the differences in military and civilian

salaries. Healthcare is a labor intensive industry and salaries are a major factor influencing the cost of healthcare. Military physicians feel that they earn far less than their civilian counterparts. According to Slomski (1991), the average net income for a civilian physician in 1990 was $141,720 and some cardiovascular surgeons can gross an annual income of $400,000. While a military physician's annual gross salary only ranges from $64,000 to $124,000.

The large increases in CHAMPUS and MTF costs clearly demonstrate the need for a mechanism to bring down cost. Managed care is used in the civilian sector manage utilization and hold down costs. However, many physicians are skeptical of managed care initiatives and are often reluctant to work under a managed care contract (Holoweiko 1991). Holoweiko feels that physicians do not trust managed care administrators because they are very sophisticated at self-protection when writing contracts. Physicians are vulnerable in this process. A physician in Montana complained how managed care forced him to hire additional staff to handle the paper work (Alper, 1991). This physician described managed care as a fragmented and complicated payment system which costs the country billions of dollars to administer. He also believes that

patients miss the personalness of being treated by the same family physician and the continuity of care.

However, some physicians are more concerned with the escalating costs of health care and encourage managed care programs (Shulkin, 1992). Shulkin describes how by their teaching methods, medical schools encourage over-utilization of treatment in terms of tests and lab procedures in order to fully educate future physicians. Shulkin surveyed over 2000 concerned physicians to identify methods of bringing down utilization rates. The lowering of utilization rates is a basis concept in managed care which is encompassed in the military's coordinated care program.

V. SUMMARY

The major purpose of this study was to compare the cost of selected inpatient care events from different health care provider sources and by implication to determine the most cost effective method of providing these types of health care services to military beneficiaries in the catchment area. Although this study dealt with data from six months to two years old and used a cost averaging approach, the differences in costs were so large it seems obvious from the data presented that treatment provided within the MTF was much more cost

effective for the government than from CHAMPUS sources for the same time period.

However, since fiscal year 91 a great deal of change has occurred in the health care industry. For instance, technological advancements and reimbursement regulations are but two variables that have effected the costs of health care. Likewise, because of the considerable decline in inpatient census at Ireland, without a proportionate decline in fixed costs since FY 91, inpatient costs have increased substantially. Because comparative systematic data from both CHAMPUS and the military medical treatment facility are not yet available for FY92, there is no overwhelming basis to assume that the relationships documented in this study will reverse.

VI. Conclusion

There are several conclusions that can be drawn from the study. The first and most obvious is that providing health care treatment within the MTF is more cost effective for the government. While the study is not sufficiently broad base to be able to generalize, it does clearly support the case that it would be frugal to treat as many beneficiaries as possible within the MTF. This

would take care of two problems; it would decrease CHAMPUS expenditures and increase occupied bed days within the MTF.

Without accurate data on catchment area treatment costs, the MTF will be at a great disadvantage in negotiating contracts. Johnsson (1992), supports this by saying that the managed care environment needs accurate information and data to be successful. Certainly, outdated and questionable data will be a major problem for the success of Gateway to Care.

One optimistic finding of the study was that there are other health care institutions within the catchment area that provide health care at rates far lower than what CHAMPUS was reimbursing. Therefore, there is reason to believe that civilian providers can be found who would agree to more favorable CHAMPUS reimbursement rates for the portion of care which is provided outside the MTF and that will assist to bring down the high inflation rate of CHAMPUS.

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Table 1 Comparison of CHAMPUS and MTF Health Care Costs

CHAMPUS FY90

DX	NO/Cases	Avg Cost/Case	ALOS
Maj Dep Dis	61	$9,513	19.7
Bipolar Dis	19	$8,970	17.7
Schizo Dis	5	$13,306	27.0
Alcohol Dep	18	$7,077	17.1
Births C-Sec	24	$10,868	5.2
Cholelithiasis	8	$4,654	4.3

MTF FY91

DX	NO/Cases	Avg Cost/Case	ALOS
Maj Dep Dis	11	$2,033	3.7
Bipolar Dis	3	$6,958	13.0
Schizo Dis	9	$5,626	10.7
Alcohol Dep	7	$2,554	4.8
Births C-Sec	96	$2,055	3.8
Cholelithiasis	28	$3,390	6.2

Table 2 FY 91 Comparison of MTF to CHAMPUS Gov't Costs

DX	MTF	CHAMPUS
Maj Dep Dis	$2,033	$11,013
Bipolar Dis	6,958	10,384
Schizo Dis	5,626	15,404
Alcohol Dep	2,554	8,193
Births C-Sec	2,055	12,581
Cholelithiasis	3,390	5,387

Table 3 Hardin Hospital Costs

DX	NO/Cases	Avg Charge/Case	ALOS
Maj Dep Dis	48	$4,214	9.0
Bipolar Dis	11	$4,323	8.9
Schizo Dis	11	$3,802	8.8
Alcohol Dep	0	$ 0	0.0
Births C-Sec	103	$2,293	3.6
Cholelithiasis	94	$5,577	3.5

Table 4 Comparison of Facility HC Costs per Diagnosis

DX	MTF	CHAMPUS	Hardin
Maj Dep	$2,033	$11,013	$4,214
Bipolar	6,958	10,384	4,328
Schizo	5,626	15,404	3,802
Alco Dep	2,554	8,193	N/A
C-Sec	2,055	12,581	2,293
Cholel	3,390	5,387	5,577

Table 5 MTF Average Occupied Bed Days

	FY 91	Oct-Mar 92	(Difference)
Psychiatry	5.5	3.8	-31%
Obstetrics	10.8	8.5	-21%
Gen Surgery	11.2	11.0	- 2%
Ireland	87.8	68.4	-22%

Table 6 MTF Dept Occupied Bed Day Cost Growth Rate

	FY 91	Oct - Mar 92	(Difference)
Psychiatry	$660	$795	+17%
Obstetrics	709	943	+25%
Gen Surgery	535	820	+35%
Overall			+25%